

Fig. 1
PRIOR ART

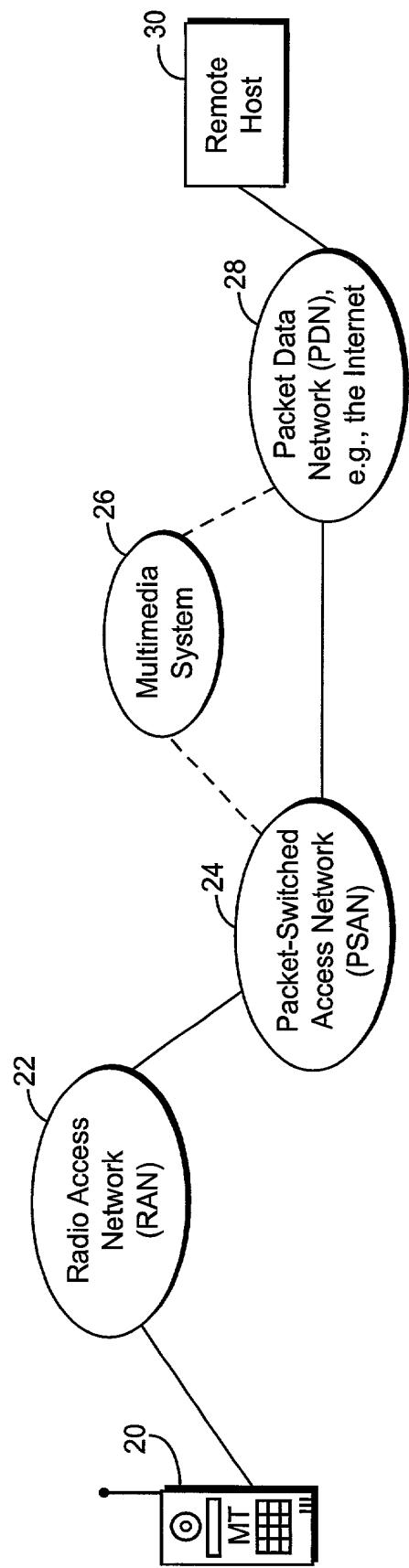


Fig. 2

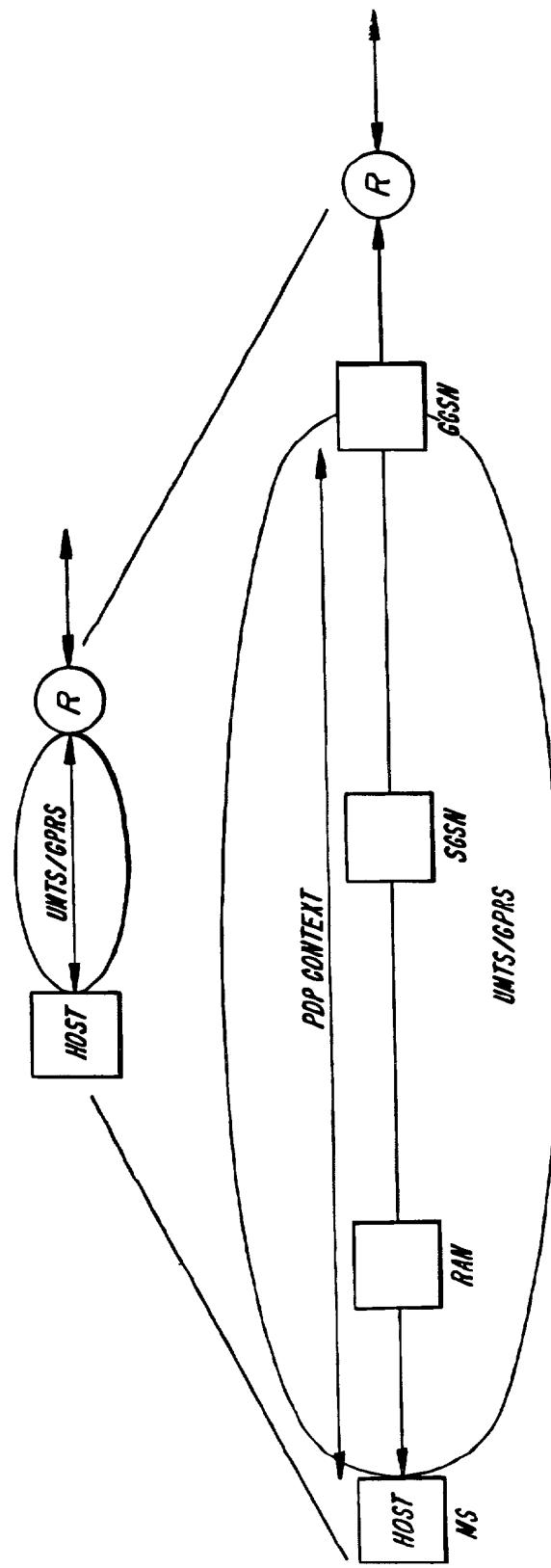


Fig. 3

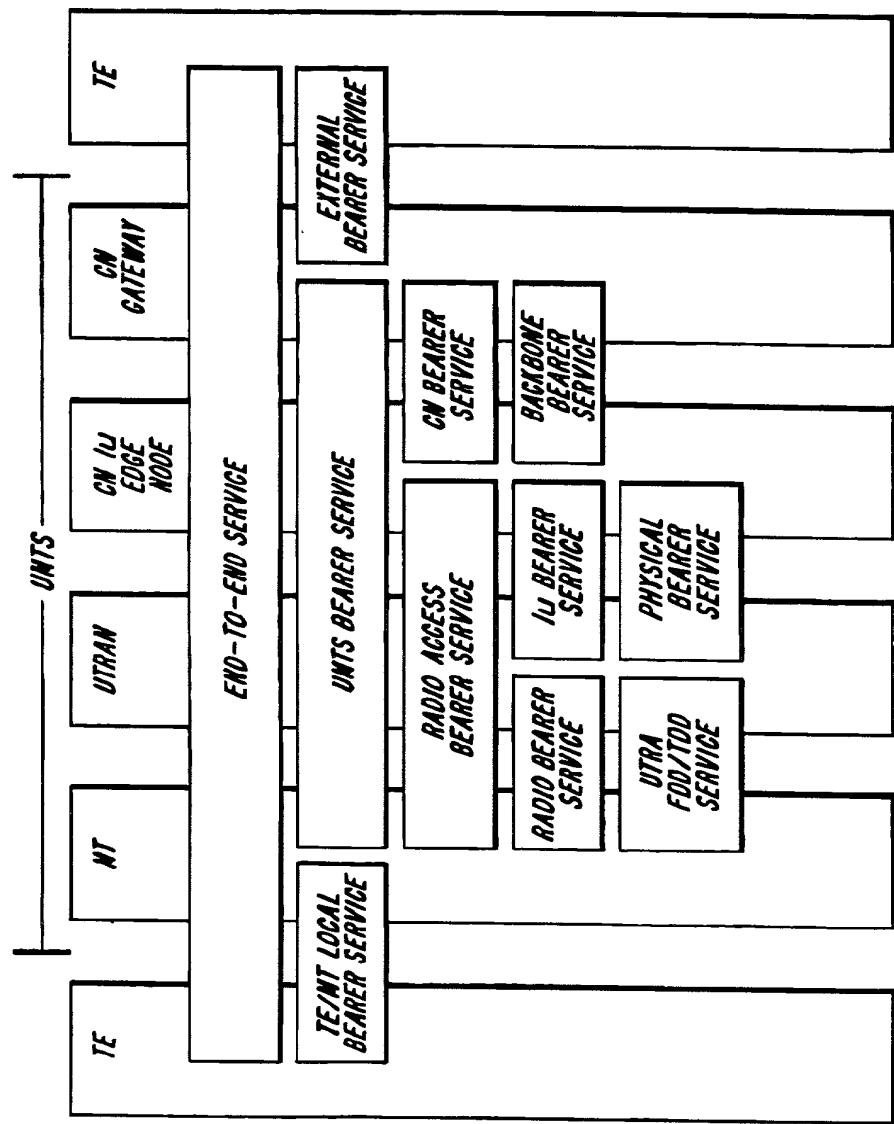


Fig. 4

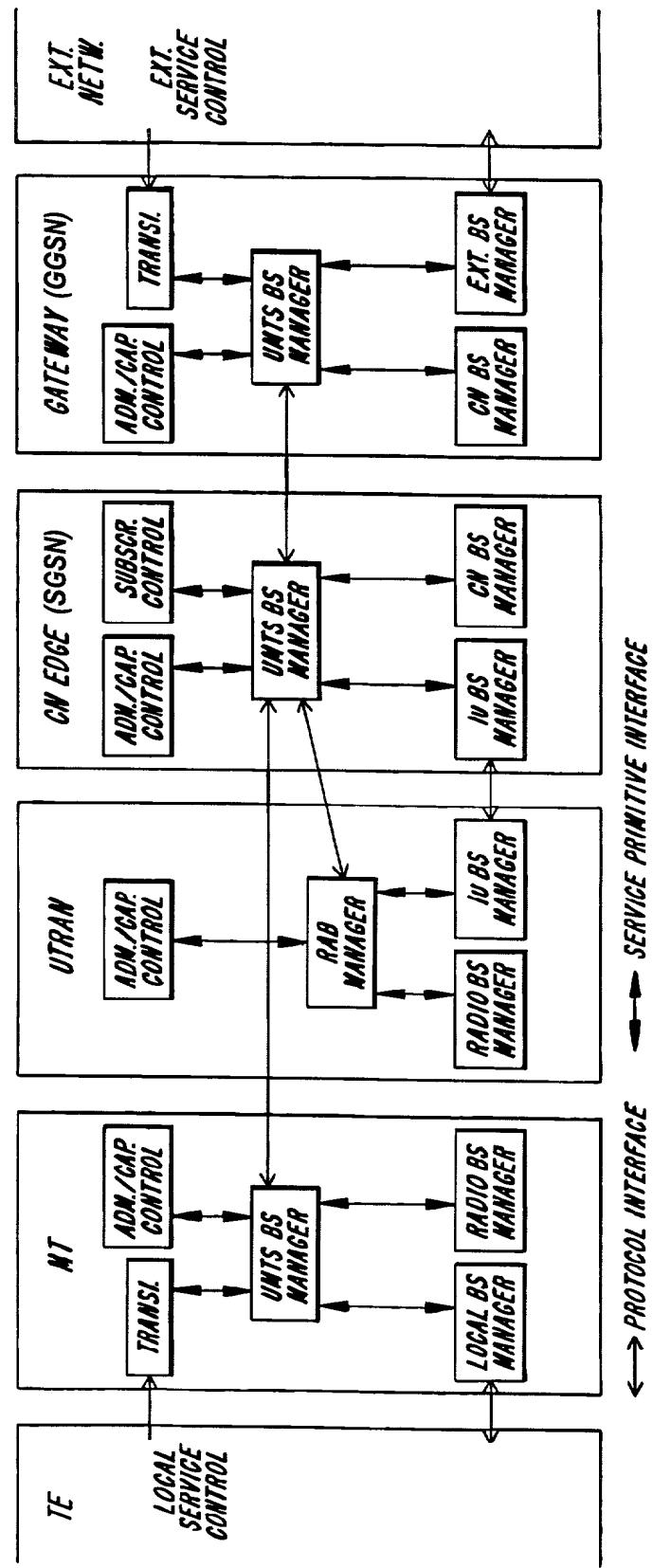


Fig. 5

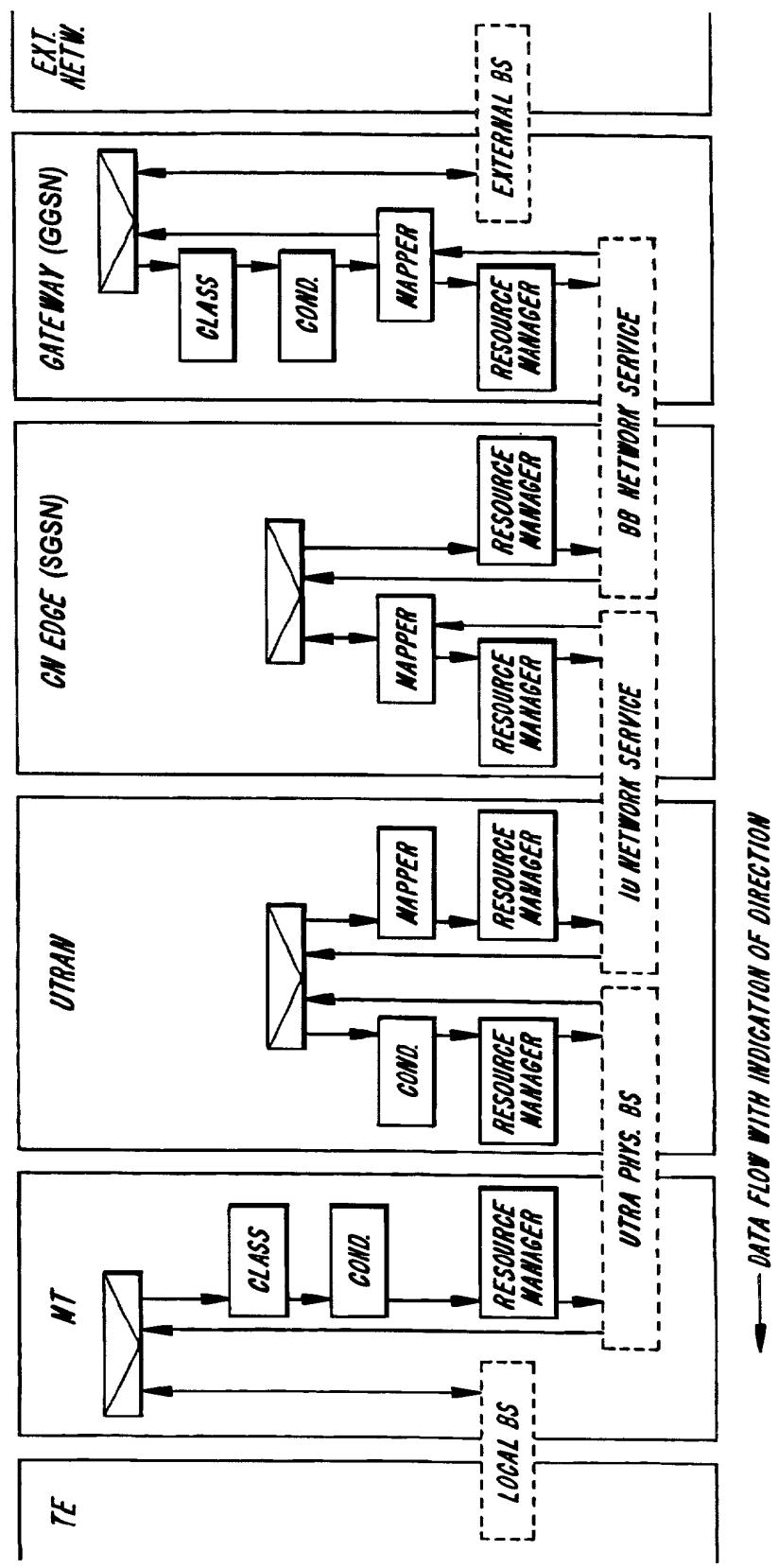


Fig. 6

TRAFFIC CLASS	CONVERSATIONAL CLASS CONVERSATIONAL RT	STREAMING CLASS STREAMING RT	INTERACTIVE CLASS INTERACTIVE BEST EFFORT	BACKGROUND BACKGROUND BEST EFFORT
FUNDAMENTAL CHARACTERISTICS	<ul style="list-style-type: none"> • PRESERVE TIME RELATION (VARIATION) BETWEEN INFORMATION ENTITIES OF THE STREAM • CONVERSATIONAL PATTERN (STRONG AND LOW DELAY) 	<ul style="list-style-type: none"> • PRESERVE TIME RELATION (VARIATION) BETWEEN INFORMATION ENTITIES OF THE STREAM 	<ul style="list-style-type: none"> • REQUEST RESPONSE PATTERN • PRESERVE PAYLOAD CONTENT 	<ul style="list-style-type: none"> • DESTINATION IS NOT EXPECTING THE DATA WITHIN A CERTAIN TIME • PRESERVE PAYLOAD CONTENT
EXAMPLE OF THE APPLICATION			<ul style="list-style-type: none"> - VOICE - STREAMING VIDEO 	<ul style="list-style-type: none"> - BACKGROUND DOWNLOAD OF EMAILS - WEB BROWSING

Fig. 7

TRAFFIC CLASS	CONVERSATIONAL	STREAMING	INTERACTIVE	BACKGROUND
MAXIMUM BIT RATE	X	X	X	X
GUARANTEED BIT RATE	X	X		
DELIVERY ORDER	X	X	X	X
MAXIMUM SDU SIZE	X	X	X	X
SDU FORMAT INFO *)	X	X		
SDU LOSS RATIO	X	X	X	X
RESIDUAL BIT ERROR RATIO	X	X	X	X
DELIVERY OF ERRONEOUS SDUS	X	X	X	X
TRANSFER DELAY	X	X		
TRAFFIC HANDLING Prio			X	
ALLOCATION/RETENTION PRIORITY	X	X	X	X
SOURCE STATISTICS DESCRIPTOR *)	X	X	X	

*) PARAMETER DIFFERS DEPENDING ON IF IT IS A UNTS BS DESCRIPTION OR A RAB SERVICE DESCRIPTION

Fig. 8

TRAFFIC CLASS	THE TRAFFIC CLASS LABEL CONTAINS A LOT OF INFORMATION ITSELF
MAXIMUM BIT RATE	USED FOR DOWNLINK CODE RESERVATION, POLICING AND SHAPING TOWARDS EXTERNAL NETWORKS
GUARANTEED BIT RATE	USED FOR ADMISSION CONTROL AND RESOURCE RESERVATION
DELIVERY ORDER	USED TO SETTLE WHETHER PDUS HAVE TO BE BUFFERED AND REORDERED IN ORDER TO BE IN SEQUENCE AT THE OUTPUT OF THE SYSTEM
MAXIMUM SDU SIZE	USED FOR ADMISSION CONTROL AND POLICING
SDU FORMAT INFO *)	RIG CONFIGURATION IF INFORMATION OF ALL POSSIBLE SDU SIZES IS GIVEN, THEN RLC CAN BE TRANSPARENT (IN CASE NO ARQ IS NEEDED).
SDU LOSS RATIO	USED FOR ARQ CONFIGURATION, ERROR DETECTION CONFIGURATION ON L1 (CRC)
RESIDUAL BIT ERROR RATIO	CHOICE OF CHANNEL CODING, ERROR DETECTION ON L1
DELIVERY OF ERRONEOUS SDUS	IS THE NW ALLOWED TO DISCARD PACKETS IN CASE OF ERRONEOUS CHECKSUM?
TRANSFER DELAY	THE DELAY IS USED TO DETERMINE WHETHER ARQ SHALL/CAN BE USED OR NOT. ALSO USED FOR TRANSPORT FORMAT SETTINGS.
TRAFFIC HANDLING PRIORITY	FOR DIFFERENTIATE INTERACTIVE SERVICE CLASS FOR SCHEDULING PURPOSES
ALLOCATION/RETENTION PRIORITY	USED FOR ADMISSION CONTROL AND SETTLEMENT IN CASE OF CONGESTION, I.E. WHO TO ADMIT AND WHO TO DISCARD.
SOURCE STATISTICS DESCRIPTOR *)	THIS INFORMATION THAT GIVES THE POSSIBILITY TO USE STATISTICS AT ADMISSION CONTROL, E.G. SPEECH AND DTX.

*) PARAMETER DIFFERS DEPENDING ON IF IT IS A UMTS DESCRIPTION OR A RAB SERVICE DESCRIPTION

Fig. 9

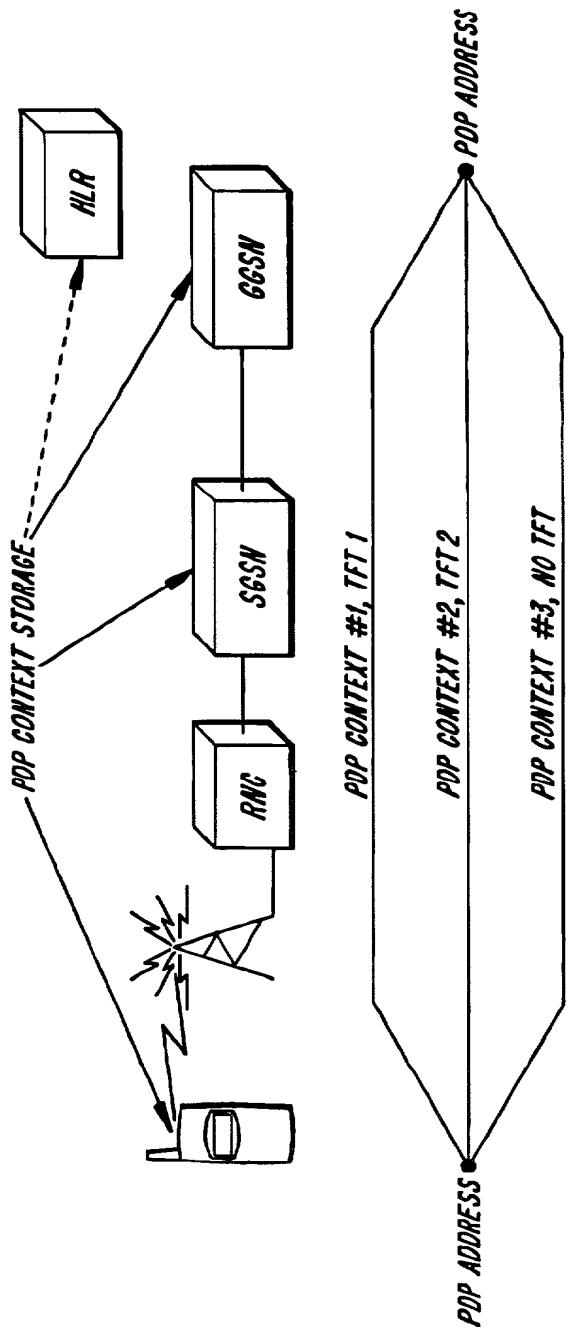


Fig. 10

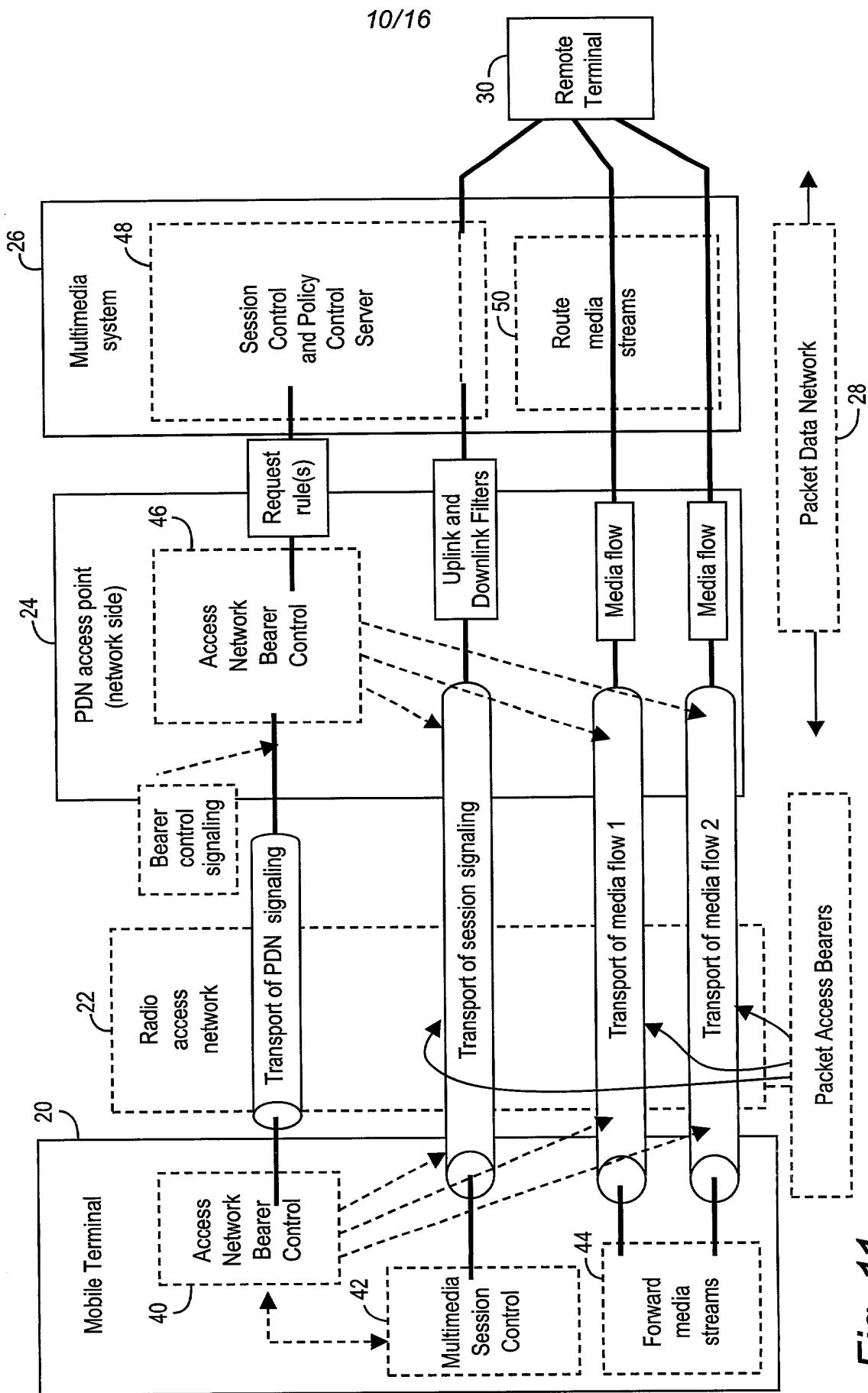


Fig. 11

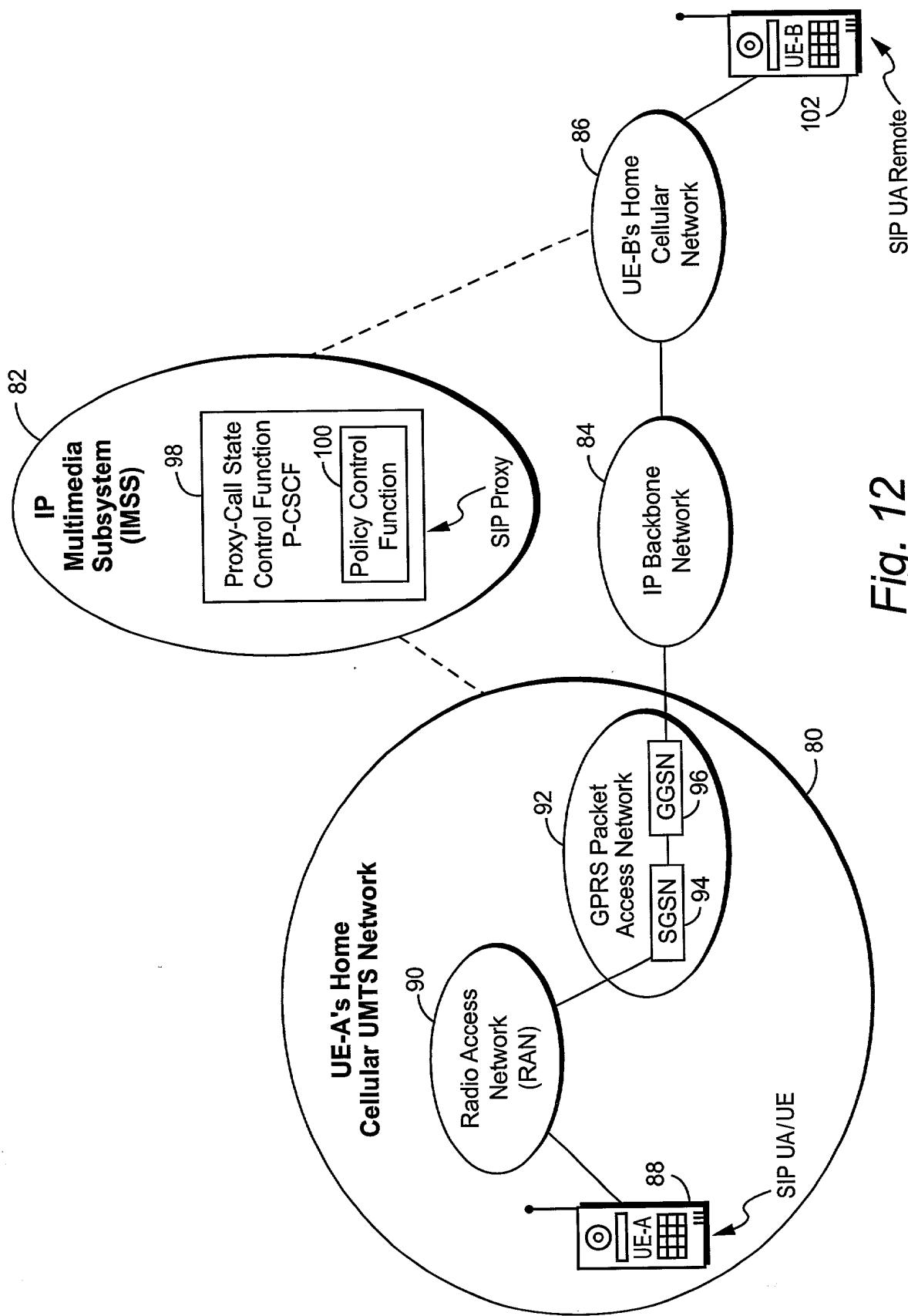
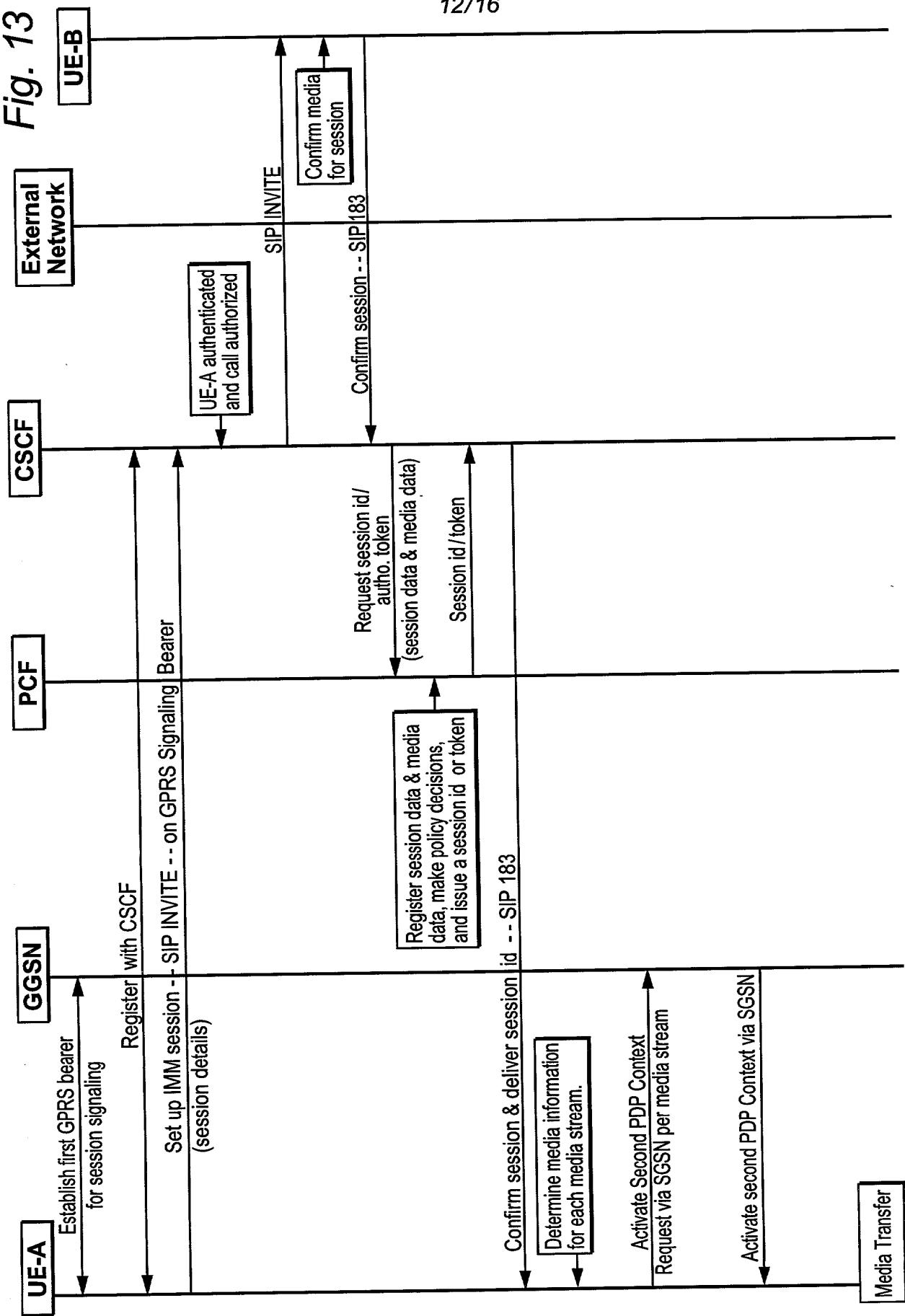


Fig. 12

Fig. 13



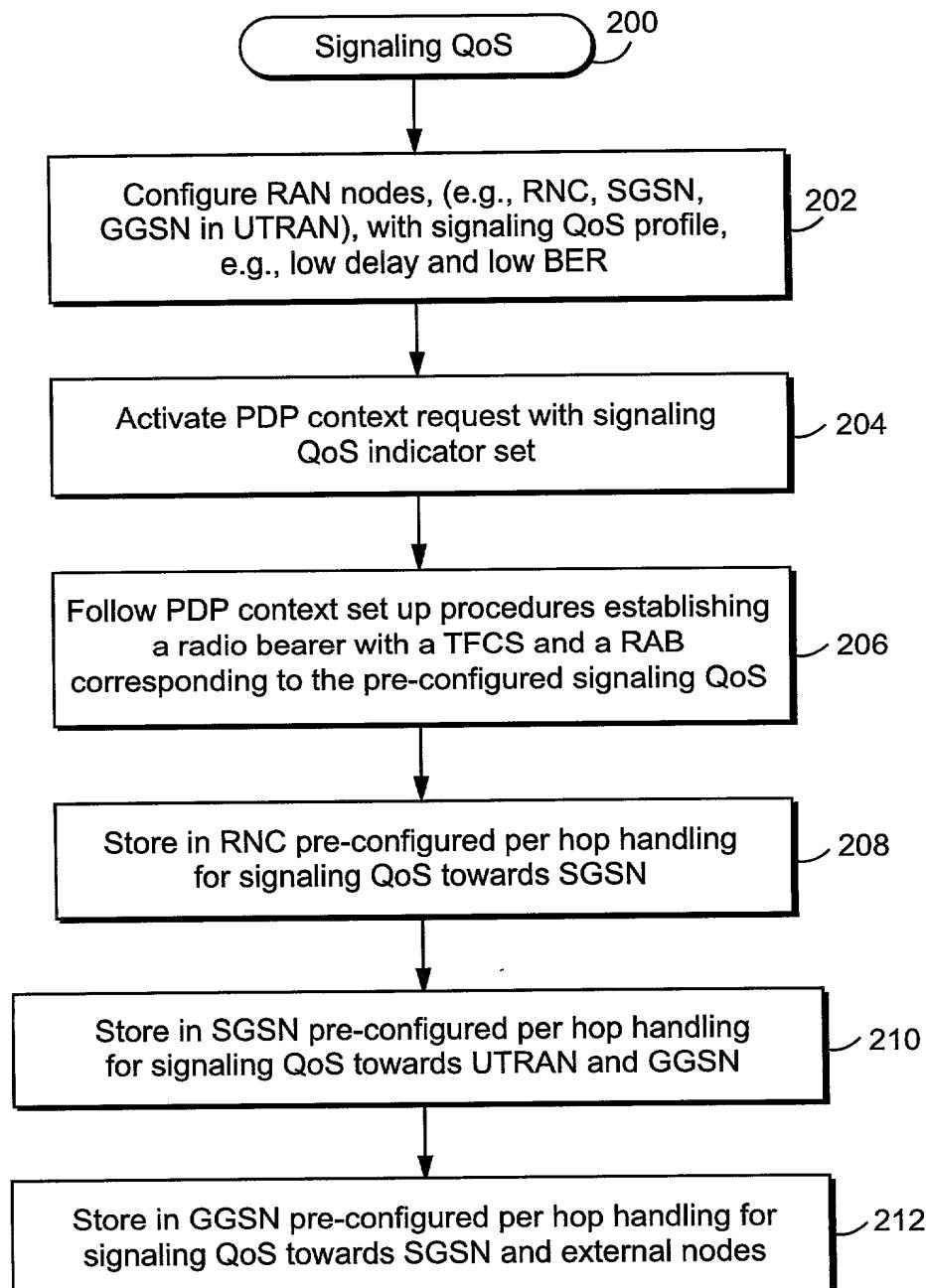
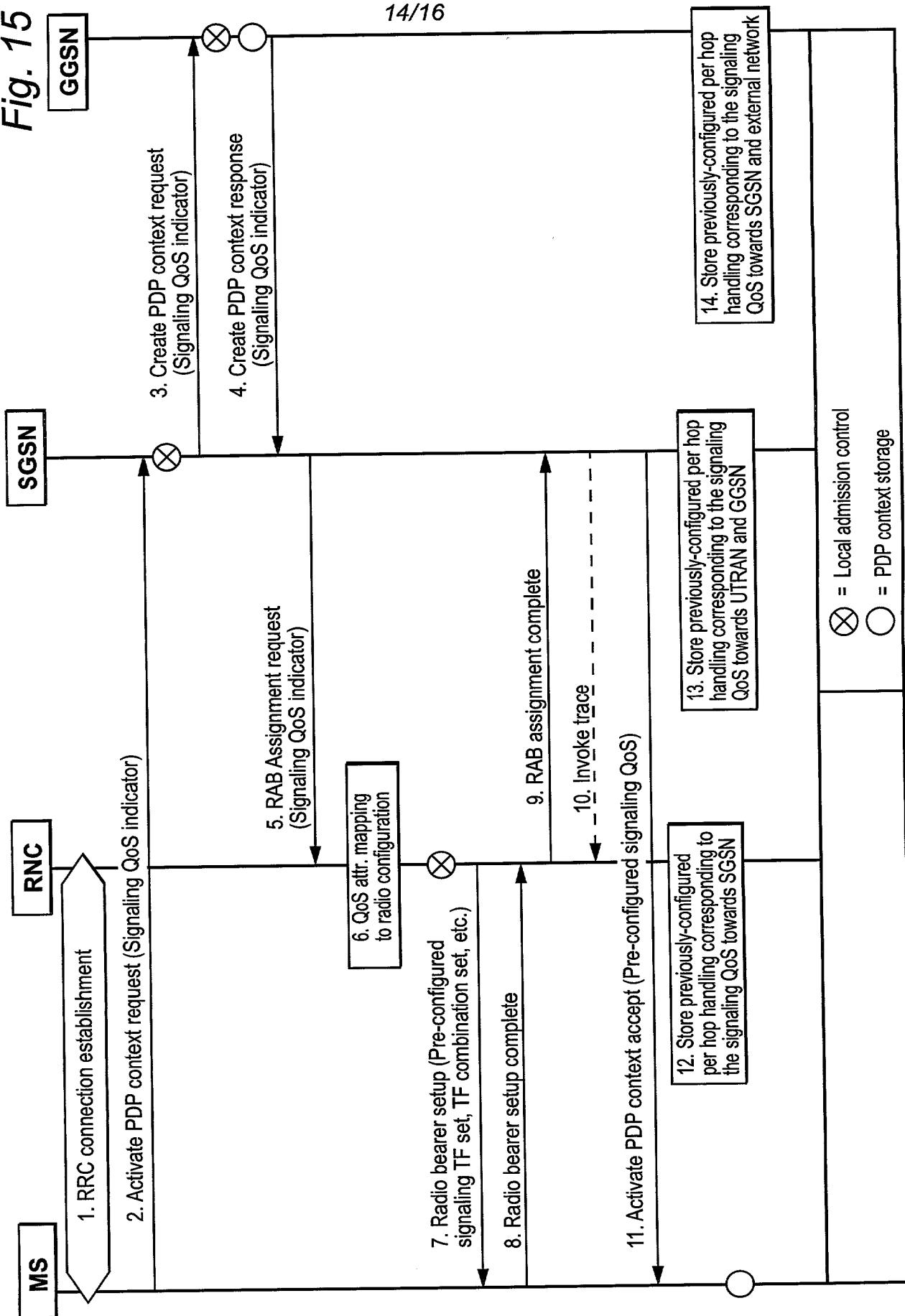


Fig. 14

Fig. 15



8	7	6	5	4	3	2	1							
Quality of service IEI								Octet 1						
Length of quality of service IE								Octet 2						
Signaling QoS Indicator	0 spare	Delay class			Reliability class			Octet 3						
	Peak throughput			0 spare	Precedence class			Octet 4						
0 spare	0	0	Mean throughput					Octet 5						
Traffic class		Delivery order			Delivery of erroneous SDU			Octet 6						
Maximum SDU size								Octet 7						
Maximum bit rate for uplink								Octet 8						
Maximum bit rate for downlink								Octet 9						
Residual BER			SDU error ratio											
Transfer delay						Traffic handling priority								
Guaranteed bit rate for uplink								Octet 12						
Guaranteed bit rate for uplink								Octet 13						
→ Signal QoS Indicator								Octet 14						

QoS Information Included in PDP Context Setup Message

Fig. 16

8	7	6	5	4	3	2	1	
Protocol configuration options IEI								Octet 1
Length of protocol config. options contents								Octet 2
1 ext	0 spare	0	0	Signaling Usage Indicator	Configuration protocol			Octet 3
Protocol ID 1								Octet 4
Length of protocol ID 1 contents								Octet 5
Protocol ID 1 contents								Octet 6
Protocol ID 2								Octet 7
Length of protocol ID 2 contents								Octet m
Protocol ID 2 contents								Octet m+1
...								Octet m+2
Protocol ID n-1								Octet m+3
Length of protocol ID n-1 contents								Octet m+4
Protocol ID n-1 contents								Octet n
Protocol ID n								Octet n+1
Length of protocol ID n contents								Octet x
Protocol ID n contents								Octet x+1
...								Octet x+2
Protocol ID y								Octet x+3
Length of protocol ID y contents								Octet x+4
Protocol ID y contents								Octet y
Protocol ID y+1								Octet y+1
Length of protocol ID y+1 contents								Octet y+2
Protocol ID y+2								Octet y+3
Length of protocol ID y+2 contents								Octet y+4
Protocol ID z								Octet z

Protocol Configuration Options Information Element

Fig. 17